

Self-employment Dynamics and 'Transitional Labour Markets': Some more UK evidence

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Abstract

This paper looks at some aspects of the potential role of self-employment in transitional labour markets (TLM), building on previous work by the author (Meager and Bates, 2002).

The question we are concerned with is whether self-employment transitions operate as positive or negative contributions to labour market dynamics. Do they, on the positive side, help to keep people attached to the labour market who might otherwise fall out; or offer entry routes to people who might otherwise not get into the labour market; or improve the career trajectories of people who might otherwise end up in social exclusion or low wage traps? Or, on the negative side, are they associated with worse outcomes than other kinds of transitions, or with low wages, social exclusion etc?

This paper reviews and adds to the evidence on these for the case of the UK.

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The logo for the Institute for Employment Studies (IES) consists of the lowercase letters 'ies' in a bold, sans-serif font. A small grey dot is positioned above the letter 'i'.

1 Introduction

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This paper reviews and adds to the evidence on these for the case of the UK. The UK is of some interest because of its unusual trajectory of self-employment in the last two decades. Additionally it presents an interesting example of an economy which is, on the one hand, relatively favourable to self-employment entry (because of its liberal regulatory regime, deregulated capital markets, the unusual structure of its housing market etc.); and on the other hand an economy in which the institutional infrastructure to mitigate negative effects of the wider extension of self-employment (eg through appropriate pension and social security arrangements, training and education regimes) is relatively under-developed.

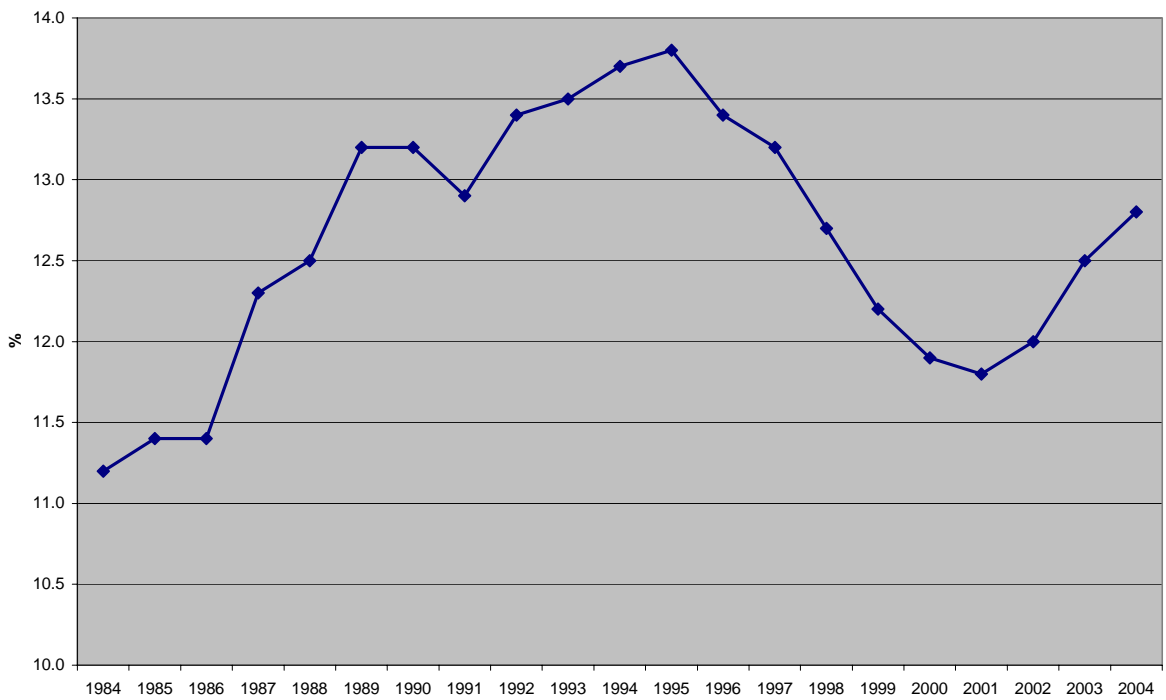
The paper starts with an account of the recent history of aggregate self-employment in the UK. It follows with a look at the previous evidence from the author and others, on what is known about self-employment transitions and their implications. Next we supplement this with some new data analysis, of two types:

1. Further analysis of the British Household Panel Survey (BHPS), providing evidence on factors influencing self-employment flows during the 1980s and 1990s in the UK. In particular, we recognise the heterogeneity of self-employment and model transitions into and out of different occupational segments of self-employment.
2. Analysis of a longitudinal data set of disadvantaged young people (aged 18-30) supported to enter self-employment. This enables us to compare the labour market trajectories of this group with those of a matched sample of young people not supported to enter self-employment, and to examine the impact of self-employment spells on subsequent labour market experience.

2 Self-employment in the UK: aggregate trends

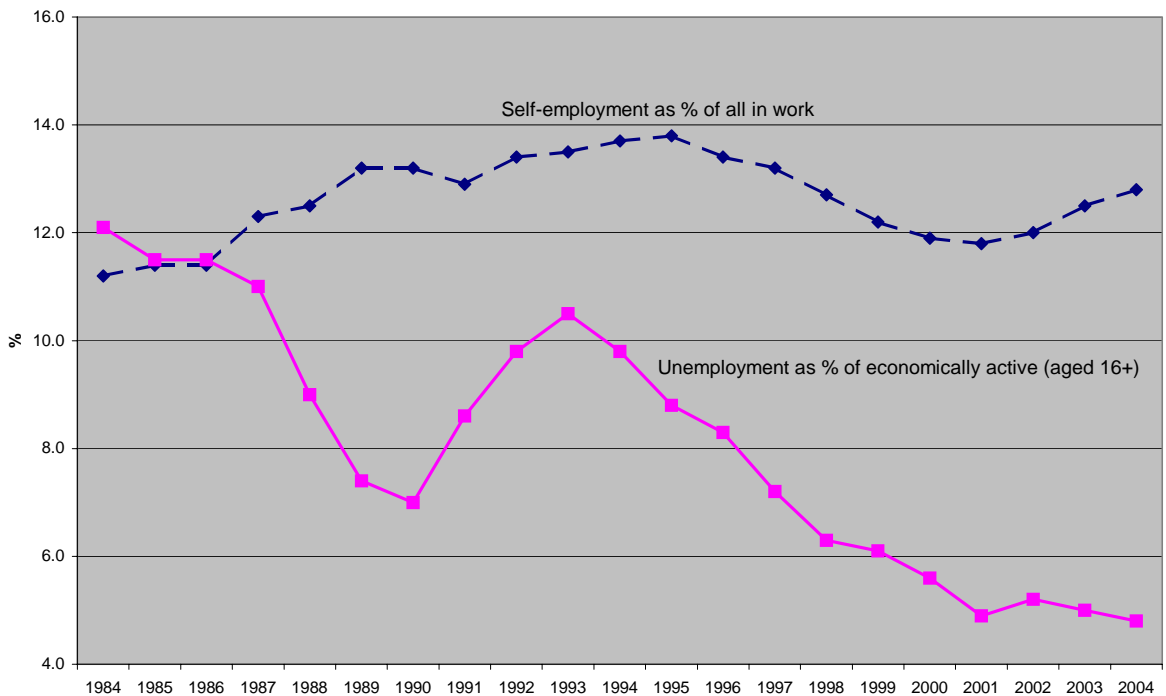
Dramatic changes in UK self-employment occurred in the 1980s (Meager 1998, Taylor 2004), the level and rate of self-employment almost doubling from 1.8 million (7% of those in work) to 3.5 million (13% of those in work). This unprecedented growth in self-employment (following decades of decline or stagnation) was not shared by other European countries (Meager 1993). Also striking was the fact that self-employment in the UK grew continuously during this period, independently of the economic cycle, undermining simple causal interpretations of the relationship between the economic cycle and the overall stock of self-employment, in terms of 'unemployment-push' (Meager, '92).

Figure 1: Self-employment rate (UK), 1984-2004



Source: Office of National Statistics – Labour Force Survey (seasonally adjusted data, Spring quarters)

Figure 2: Self-employment rate and unemployment rate (UK), 1984-2004

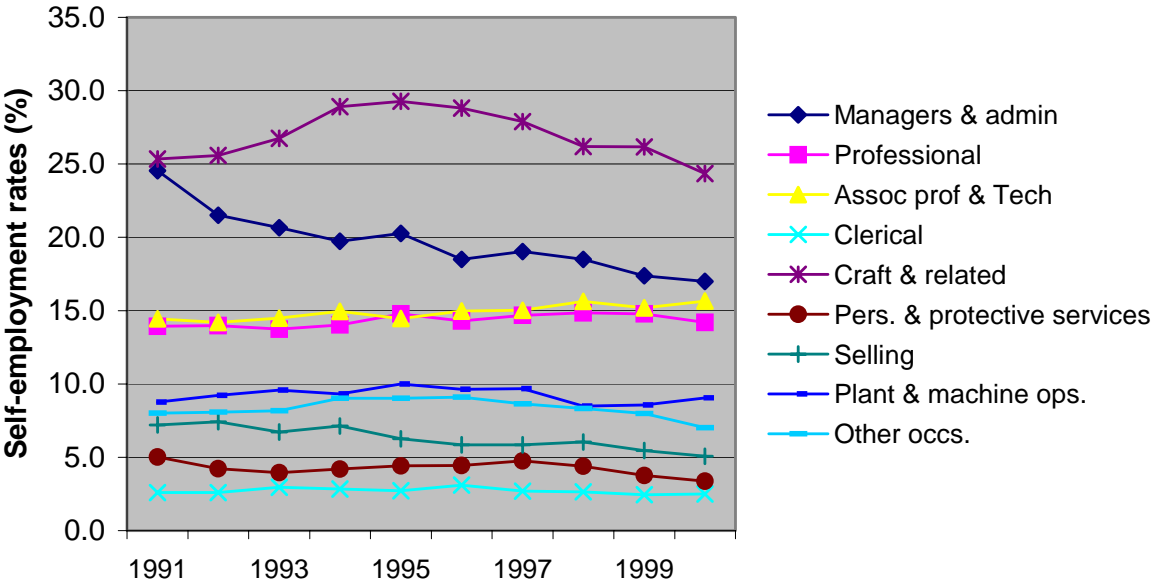


Source: Office of National Statistics – Labour Force Survey (seasonally adjusted data, Spring quarters)

The picture during the 1990s was rather different following a decline in the recession of the early 90s, self-employment grew again over 1992-95, reaching a new peak before declining markedly over the period 1996-2001 (a period of strong overall employment growth); since 2001, self-employment has again been on an upward trajectory. As in the 1980s, there is no clear relationship between self-employment and the economic cycle (Figure 2). As Meager 1992 and others note, this is not surprising, since the cycle acts independently on self-employment inflows and outflows (eg growing unemployment may have a 'push' effect on inflows to self-employment, but an economic downturn also reduces business survival rates increasing self-employment outflows); the net effect on trends in the stock of self-employment is indeterminate *a priori*.

Also relevant is the high degree of heterogeneity among the 'self-employed' in official statistics, a fact often overlooked in economic studies of self-employment (which model self-employment as a single ideal type: an independent 'entrepreneur' or small business proprietor). As many authors point out, self-employment encompasses a wide range of working modes of different degrees of autonomy, some of which conform much more closely than others to the 'entrepreneur' of the economic models. It is, therefore, implausible to model the relationship between the economic cycle and self-employment as a single aggregate, when that aggregate is composed of diverse parts, each responding differently to changes in the economic and institutional environment.

Figure 3 Self-employment rates by occupation; UK 1991-2000



Source: Labour Force Survey (Spring quarters; data not seasonally adjusted)

This variety is evident, for example, when looking at self-employment trends by occupation, shown in Figure 3 (for the 1990s). Most notable is the fall in managerial self-employment rates, a marked trend also observed in other UK data sets (Knight and McKay, 2000). One hypothesis is that this reflects increasing diversity in the self-employed, with a relative decline in the proportion who see themselves as small business proprietors, and a growth in the proportion working in their own profession, but on 'their own account' rather than for an employer. More straightforward to interpret is the recent

decline in self-employment rates among craft and related occupations. This coincides clearly with the decline in self-employment in the construction sector (discussed below).

Bearing in mind this diversity within the self-employment total, what explanations emerge from the research literature for the recent trends in UK self-employment? For the 1980s, there is a consensus (Acs, Audretsch and Evans 1992, Meager 1993) that no single factor explains the unusual growth in UK self-employment. Throughout the period, the UK experienced higher inflow rates to self-employment than comparable European countries, and recent work with household panel data (Taylor 2004; Meager and Bates 2004) confirms that the 1980s growth was driven by changes in the inflow rate (rather than changes in the duration of self-employment spells). These increased inflow rates were, in turn, influenced by several factors, some of which were common to other countries during that period (eg government policies designed to encourage business start-up or to support the unemployed to enter self-employment — Meager 1996 — although these were rather larger in scale in the UK in the 1980s than in many other countries).

Other factors, however, were distinctive to the UK. In particular: the faster shift from manufacturing to service employment (with higher densities of self-employment) in the UK than elsewhere; the contracting out of service functions by large employers, and the growth in sub-contracting, franchising, and privatisation of public services, were all particularly marked in the UK (particularly in the construction sector, where there was an unprecedented growth in self-employment as 'disguised wage employment' — Nisbet 1997, Winch 1998, Nisbet and Thomas, 2000); a less restrictive regulatory framework for business start-up in the UK than in many continental economies (Meager, Kaiser and Dietrich 1992); and a highly deregulated market for financial capital (growing home ownership and rapid house price inflation, facilitating equity withdrawal, contributed to an environment in which it was relatively easy to raise financial capital for business start-up).

Turning to more recent periods, there is less consensus in the literature regarding the fall in self-employment during the period 1996-2001. Meager and Bates 2004 point out that inflow rates to self-employment and outflow rates from self-employment were both higher during the 1990s than during the 1980s, but outflow rates grew faster than inflows. The sectoral and occupational patterns described above provide a partial possible explanation — in particular, the period saw a big fall in self-employment in construction, reflecting a campaign by tax and social security authorities to clamp down on 'bogus' self-employment in this sector (Green 1998; Briscoe et al. 2000). It is also possible that recent changes in corporation tax regimes provided an incentive for sole traders and self-employed people to incorporate their businesses (and become employees of their own companies), a possible explanation for the decline in self-employment in 'managerial' occupations (Figure 3 above), although lacking hard evidence, this remains a hypothesis. These changes appear to have had a one-off impact, however, and since 2001, self-employment resumed its upward trend.

3 The quality of self-employment transitions in the UK

We have seen that the UK experienced during the 1980s and 90s growing rates of transition into and out of self-employment. Self-employment became a state which more people (and different types of people) experience at some stage during their working life. What does this mean for the quality of the labour market experience of the individuals affected?

Overall, the UK findings to date, focusing on the impact of self-employment spells on income levels (Meager and Bates 2002) are not overly supportive of the case for self-employment as a 'positive' element in a transitional labour market (TLM). The data show:

- Average self-employment incomes are similar to those of employees, but self-employed earnings are much more polarised than the employee wage distribution (Meager, Court and Moralee, 1996) with larger shares on very high and very low incomes.
- Once personal characteristics are controlled for, however, being self-employed significantly increases the likelihood of very low earnings. In contrast, being self-employed does not significantly increase the likelihood of very high earnings (Meager, Court and Moralee 1996).
- Despite increased likelihood of low income while self-employed, panel data (Meager and Bates 2002) suggest little 'scarring effect' of self-employment once individuals move into wage employment (this contrasts with recent findings for the USA, however; see below). For those still in the labour market, income levels can recover from the impact of spells of low-income self-employment.
- Data on lifetime work histories (Meager, Court and Moralee 1996), however, show that self-employment experience *does* impact on the incomes in later life of a sample of people aged 55-69. Once other factors are controlled for, self-employment experience is a predictor of very low incomes in later life, but not of very high incomes. Further the ex-self-employed with low incomes in later life tended also to have lower levels of savings and pension entitlements. These conclusions were challenged by Knight and Mackay 2000, who note that having been self-employed does not reduce *average* income after retirement; but the key point relates not to average income, but to the *dispersion* of incomes. Self-employment experience leads to higher probabilities of being in the top and the bottom of the income distribution in later life, but only in the latter case is that association explained by having been self-employed, rather than by other factors.

A tentative conclusion is that a flexible, liberal labour market regime such as the UK may be better at guarding against the short-term effects of self-employment experience on income levels, than in guarding against its long-term effects. Being self-employed raises one's chances of very low income, but this effect does not carry over into wage employment after leaving self-employment; over the life-time, however, the presence of self-employment spells in the previous work history *does* increase chances of poverty, low savings levels and poor pension entitlement in later life.

Before turning to our new empirical evidence, it is worth noting some interesting findings from another liberal labour market regime (the USA). Williams (2000) using longitudinal US data also shows that self-employment experience produces a significant earnings penalty on return to wage employment (but this effect is present only for women). More recent US panel data analysis (Bruce and Schuetze, 2004), finds that, relative to continued wage employment, short self-employment spells reduce average earnings on return to wage employment (by 3-11% for men), and that a self-employment spell increases the probability of subsequent unemployment by 3-10%, and of part-time employment by 10-30%. They suggest that their negative results, compared with previous US work reflects not only methodological differences, but also their specific focus on *short* spells of self-employment (within a five-year window). Bruce and Schuetze argue that their findings raise important questions about the value of self-employment schemes to support unemployed people to start their own businesses (we consider some data relating to such a self-employment measure in the UK in section 15 below).

4 Further evidence: self-employment transitions by occupation

We extend the modelling of self-employment entries and exits in the UK using data from the BHPS, coupled with retrospective work history data (from the 1992 and 1993 waves of the BHPS, in 1992 and 1993); our combined data set covers the period 1980-99. Fuller details of the data set, and earlier versions of our analysis are set out in Meager and Bates (2004)¹.

Table 1 models inflows to self-employment for men, women, and all people. The combined model shows that being female significantly reduces the likelihood of self-employment entry, a familiar finding from earlier research. In a multinomial model (Table 2), modelling self-employment entry in three occupational groups, the gender effect applies to all three, but is weaker in higher occupational groups. The penalty of being female is smallest in the flow to professional self-employment, and greatest in the flow to unskilled self-employment. Age has a consistent effect in all models, confirming previous research; the relationship is curvilinear, with the likelihood increasing, and then falling with age. Education is an important influence on inflow probabilities. In the aggregate models (Table 1), those with higher qualifications have more chance of becoming self-employed (although the effect is not always significant, and the probability does not increase monotonically with education). The occupational models (Table 2) show a more coherent pattern: for inflows to professional self-employment, there is a monotonically increasing relationship with education level. For skilled self-employment inflows, the highest entry probability is among those with intermediate qualifications, while in the case of inflows to unskilled self-employment it is those with higher qualifications who have a *lower* entry probability.

¹ Similar modelling of inflows to and outflows from self-employment, using BHPS data, can also be found in Taylor (2004). In contrast to Taylor, however, we model the flows at a greater level of occupational disaggregation, to reflect the high degree of heterogeneity among the self-employed.

Table 1: Logit models of entry into self-employment (1980-1999)

	All		Male		Female	
	Coef.	s.e.	Coef.	s.e	Coef.	s.e
Gender (ref male)						
Female	-0.748***	0.078	N/a	N/a	N/a	N/a
Age						
Age (yrs, age 18=0)	0.060***	0.011	0.049***	0.013	0.090***	0.019
Age squared	-0.001***	0.000	-0.001***	0.000	-0.002***	0.000
Education (CASMIN), (ref 1ab)						
1c/2a	0.017	0.252	0.700	0.591	0.075	0.279
2b	0.351***	0.100	0.437***	0.126	0.260	0.167
2c	0.618***	0.121	0.500***	0.152	0.878***	0.199
3a	0.490***	0.102	0.369***	0.129	0.712***	0.167
3b	0.481***	0.138	0.320*	0.170	0.785***	0.230
Employment status before self-employment entry (ref unskilled employee)						
Professional employee	0.099	0.111	-0.040	0.129	0.517**	0.226
Skilled employee	-0.081	0.100	-0.234**	0.118	0.290	0.201
Unemployed	1.467***	0.116	1.609***	0.137	1.016***	0.245
Economically inactive	0.526***	0.115	0.495***	0.166	0.588***	0.203
Industrial sector before self-employment entry (ref primary, manufacturing, utilities; also includes those not in the labour market)						
Construction	1.212***	0.134	1.332***	0.144	0.457	0.575
Traditional services	0.439***	0.109	0.632***	0.137	0.186	0.192
Transport & communications	0.081	0.177	0.125	0.197	-0.096	0.423
Financial & business services	0.453***	0.123	0.649***	0.152	0.078	0.223
Other services	-0.005	0.112	-0.048	0.158	-0.204	0.187
Father self-employed (ref: father not self-employed)						
Father self-employed	0.335***	0.094	0.343***	0.118	0.347**	0.153
Social background of father (ref: father unskilled employee)						
Father professional employee	0.134	0.097	0.048	0.125	0.215	0.156
Father skilled employee	0.049	0.084	0.158	0.103	-0.140	0.144
Father other	0.034	0.126	0.063	0.162	-0.047	0.202
Constant	-5.411***	0.147	-5.282***	0.178	-6.534***	0.277
<i>No. of observations</i>	<i>103,564</i>		<i>44,682</i>		<i>58,882</i>	
<i>Wald χ^2 (degrees of freedom)</i>	<i>481.88 (21)</i>		<i>274.61 (20)</i>		<i>109.70 (20)</i>	
<i>Pseudo- R²</i>	<i>0.042</i>		<i>0.040</i>		<i>0.026</i>	
<i>Log likelihood</i>	<i>-5910.37</i>		<i>-3452.01</i>		<i>-2423.90</i>	

*: p<0.10, ** p<0.05, ***:p<0.01

Table 2: Multinomial logit model: self-employment entry by occupation (1980-1999)

	Type of self-employment					
	Professional		Skilled		Unskilled	
	Coef.	s.e	Coef.	s.e	Coef.	s.e
Gender (ref male)						
Female	-0.326***	0.115	-0.827***	0.124	-1.545***	0.193
Age						
Age (yrs, age 18=0)	0.067***	0.017	0.053***	0.016	0.084***	0.026
Age squared	-0.001***	0.000	-0.002***	0.000	-0.002***	0.001
Education (CASMIN), (ref 1ab)						
1c/2a	0.582	0.394	0.046	0.334	-0.588	0.717
2b	0.866***	0.195	0.171	0.154	0.423**	0.181
2c	1.366***	0.213	0.526***	0.178	0.199	0.260
3a	1.321***	0.187	0.370**	0.161	-0.088	0.224
3b	1.562***	0.220	-0.356	0.294	-1.360**	0.628
Employment status before self-employment entry (ref unskilled employee)						
Professional employee	0.689***	0.173	-1.158***	0.306	-2.119***	0.362
Skilled employee	-0.576***	0.189	0.739***	0.179	-1.636***	0.222
Unemployed	1.181***	0.217	1.886***	0.210	0.592***	0.230
Economically inactive	0.125	0.209	0.996***	0.217	-0.079	0.240
Industrial sector before self-employment entry (ref primary, manufacturing, utilities; also includes those not in the labour market)						
Construction	0.305	0.286	1.438***	0.175	1.138***	0.321
Traditional services	0.456***	0.166	0.029	0.202	0.571**	0.239
Transport & communications	0.120	0.261	-1.530***	0.589	0.469	0.295
Financial & business services	0.455***	0.151	-0.126	0.292	0.853***	0.312
Other services	-0.399***	0.156	0.082	0.179	0.220	0.295
Father self-employed (ref: father not self-employed)						
Father self-employed	0.215**	0.130	0.445***	0.158	0.415*	0.219
Social background of father (ref: father unskilled employee)						
Father professional employee	0.369***	0.140	0.109	0.173	-0.509**	0.259
Father skilled employee	0.068	0.138	0.179	0.133	-0.169	0.169
Father other	0.021	0.210	0.170	0.198	-0.186	0.255
Constant	-7.220***	0.286	-6.225***	0.238	-5.681***	0.311
<i>No. of observations</i>			94,082			
<i>Wald χ^2 (degrees of freedom)</i>			994.69 ₍₆₉₎			
<i>Pseudo- R²</i>			0.080			
<i>Log likelihood</i>			-6642.10			

*: p<0.10, ** p<0.05, ***:p<0.01

Prior unemployment strongly (and positively) influences self-employment entry in all models. Similarly, prior economic inactivity is a positive influence on inflows (although the effect is weaker than that of unemployment, and found only in the skilled self-employment model). Among those employed prior to self-employment, occupational status is an influence (Table 2): professional employees are more likely to enter professional self-employment, skilled employees more likely to enter skilled self-employment, and both groups significantly less likely to enter unskilled self-employment. Self-employment transitions do not act as a mechanism for mobility between occupational groups within an individual's working life. For men only, the previous sector of employment influences self-employment entry, although it is not clear whether this reflects sector-specific experience gained in wage employment, or greater opportunities to become self-employed in certain sectors. Compared with men who are inactive or employed in the primary or manufacturing sectors, men employed in financial and business services, traditional services, and (especially) construction are more likely to enter self-employment. The construction effect is expected, given the particular characteristics of UK construction, discussed above (Table 2 shows that the effect is concentrated among skilled and unskilled workers).

Many previous studies find that parental self-employment is a positive influence on self-employment inflows. Our models are consistent with this inter-generational transmission of self-employment propensity, which is likely to relate to social capital as well as to financial capital and the role of inheritance. Our models record the effect for both men and women (Table 1), but Table 2 shows that it applies only to entry to skilled and unskilled self-employment, and not to professional self-employment. Entry to professional self-employment is, however, influenced by the broader occupational background of the father (Table 2): having a father in professional employment increases the likelihood of entry to professional self-employment (and reduces the likelihood of entry to unskilled self-employment).

Table 3 and Table 4 show similar models for self-employment outflows. The effect of gender is particularly marked in the case of professional and skilled self-employment. Self-employed women in these occupations are more likely to exit self-employment (alongside the earlier findings of lower entry propensities, this helps explain aggregate female self-employment rates remaining persistently lower than those of men).

In all the models, outflow propensities decline with age, although the relationship is curvilinear, and the propensities start to rise again in the older years (a retirement effect). Together with the results for self-employment inflows helps, this suggests that the stability of self-employment increases with age; as individuals get older (up to a certain age), they are more likely to enter self-employment, and more likely, having entered, to remain in self-employment. This is consistent with the hypothesis that older individuals are more likely to have accumulated financial and human capital which is relevant *both* to self-employment entry, and to survival in self-employment.

Qualification level has a positive impact on outflows, mainly among professional occupations; taken together with the inflow findings this suggests increasing dynamism of (professional) self-employment with increasing educational level; the low qualified are less likely to enter this kind of self-employment, but more likely to remain in it when they

do. As noted in Meager and Bates (2004), the UK is unusual in this respect, and similar analysis for some other advanced economies suggests increasing stability of self-employment with qualification levels. It is possible that self-employment among highly qualified people in the UK is perhaps less stable than elsewhere, due to the 'flexibilisation' of some professional labour markets in the liberal market regime of the UK². Such an explanation is hard to square, however, with the outflow data (Table 3 and Table 4) showing that the professional self-employed are less likely to exit than skilled or unskilled employees.

Turning to sector, the models show that, compared with primary, manufacturing and construction self-employment, employment in the other sectors (services of various types) is less stable, with higher exit rates.

Finally, the models confirm that parental self-employment not only increases the chances of entry to self-employment, but also reduces outflow probabilities. Over and above this effect of a self-employed father, however, there seems to be no effect of the father's social or professional status on the likelihood of exit.

So what does tell us about the 'positive' or 'negative' dimensions of self-employment transitions in a transitional labour market framework? First, the results reinforce existing evidence on the role of personal characteristics. Thus they confirm persistent gender effects: women are less likely to enter self-employment, and female self-employment is less stable than male self-employment, raising questions about the potential of self-employment transitions as a 'positive' career stage for women (at least without institutions or measures to help sustain them in self-employment). Further, inflow propensities increase and outflow propensities decrease with age throughout most of the working life, suggesting that accumulation of financial and human capital with age facilitates entry to self-employment and protects against exit, in turn raising questions about self-employment transitions as a positive career move for younger people who may lack such financial and human capital (we present in section 5 of this paper evidence from a UK measure to encourage young people's transition to self-employment).

² Other research (see, for example: Smeaton 2003; Fraser and Gold 2001; Dex et al. 2000) notes the growth of professional freelancers in information technology-related or media occupations.

Table 3: Logit model of exit from self-employment by occupation (1980-1999)

	All		Professional		Skilled		Unskilled	
	Coef.	s.e.	Coef.	s.e	Coef.	s.e	Coef.	s.e
Gender (ref male)								
Female	0.509***	0.080	0.634***	0.109	0.512***	0.168	0.331	0.229
Age								
Age (yrs, age 18=0)	-0.070***	0.014	-0.071***	0.022	-0.055***	0.022	-0.088***	0.028
Age squared	0.002***	0.000	0.002***	0.000	0.001***	0.000	0.002***	0.001
Education (CASMIN), (ref 1ab)								
1c/2a	0.374	0.232	0.021	0.356	0.424	0.330	1.036**	0.480
2b	0.287***	0.096	0.217	0.192	0.324**	0.141	0.202	0.186
2c	0.538***	0.109	0.572***	0.186	0.632***	0.164	0.454	0.309
3a	0.268***	0.089	0.262	0.163	0.220	0.147	0.306	0.224
3b	0.444***	0.135	0.464***	0.184	0.448	0.352	-0.243	0.947
Occupation in current self-employment (ref unskilled)								
Professional	-0.330***	0.118	N/a	N/a	N/a	N/a	N/a	N/a
Skilled	-0.070	0.112	N/a	N/a	N/a	N/a	N/a	N/a
Industrial sector of current self-employment spell (ref primary, manufacturing, utilities; also includes those not in the labour market)								
Construction	0.118	0.115	1.092***	0.424	-0.018	0.144	0.108	0.271
Traditional services	0.386***	0.116	0.478**	0.196	0.728***	0.201	0.135	0.266
Transport & communications	0.649***	0.183	0.620	0.529	0.868	0.607	0.527**	0.249
Financial & business services	0.646***	0.134	0.792***	0.206	0.585**	0.268	0.621	0.392
Other services	0.317***	0.116	0.459**	0.195	0.308	0.192	0.076	0.341
Father self-employed (ref: father not self-employed)								
Father self-employed	-0.200***	0.081	-0.370***	0.120	-0.025	0.136	-0.024	0.218
Social background of father (ref: father unskilled employee)								
Father professional employee	-0.017	0.093	-0.074	0.131	-0.100	0.179	0.093	0.275
Father skilled employee	0.065	0.080	-0.133	0.144	0.116	0.121	0.283	0.177
Father other	-0.100	0.110	-0.136	0.211	-0.070	0.167	-0.185	0.233
Constant	-1.708***	0.192	-2.106***	0.332	-2.036***	0.271	-1.235***	0.376
<i>No. of observations</i>	9,356		4,213		3,633		1,510	
<i>Wald χ^2 (degrees of freedom)</i>	162.23 ₍₁₉₎		80.52 ₍₁₇₎		84.36 ₍₁₇₎		35.16 ₍₁₇₎	
<i>Pseudo - R²</i>	0.024		0.029		0.031		0.027	
<i>Log likelihood</i>	-3639.43		-1620.15		-1357.27		-638.73	

*: p<0.10, ** p<0.05, ***:p<0.01

Table 4: Logit model of exit from self-employment by gender (1980-1999)

	Male		Female	
	Coef.	s.e.	Coef.	s.e.
Age				
Age (in yrs; age 18=0)	-0.070***	0.016	-0.073***	0.024
Age squared	0.002***	0.000	0.001***	0.001
Education (CASMIN), (ref 1ab)				
1c/2a	1.123**	0.559	0.188	0.265
2b	0.320***	0.112	0.161	0.185
2c	0.676***	0.127	0.245	0.197
3a	0.292***	0.108	0.188	0.162
3b	0.517***	0.166	0.246	0.234
Occupation in current self-employment (ref unskilled)				
Professional employee	-0.539***	0.139	0.022	0.220
Skilled employee	-0.190	0.125	0.200	0.224
Industrial sector of current self-employment spell (ref primary, manufacturing, utilities; also includes those not in the labour market)				
Construction	0.087	0.127	1.011*	0.559
Traditional services	0.411***	0.143	0.371*	0.208
Transport & communications	0.510***	0.203	1.399***	0.357
Financial & business services	0.603***	0.166	0.851***	0.250
Other services	0.501***	0.167	0.247	0.177
Father self-employed (ref: father not self-employed)				
Father self-employed	-0.202**	0.099	-0.166	0.145
Social background of father (ref: father unskilled employee)				
Father professional employee	-0.026	0.118	-0.025	0.159
Father skilled employee	0.010	0.093	0.215	0.158
Father other	-0.118	0.130	-0.054	0.196
Constant	-1.653***	0.223	-1.279***	0.376
<i>No. of observations</i>	6,835		2,521	
<i>Wald χ^2 (degrees of freedom)</i>	95.43₍₁₈₎		49.06₍₁₈₎	
<i>Pseudo- R²</i>	0.020		0.020	
<i>Log likelihood</i>	-2451.65		-1174.50	

*: p<0.10, ** p<0.05, ***:p<0.01

The findings on social mobility and educational background are interesting from a TLM perspective. At aggregate level, the familiar relationship of previous studies is observed: parental self-employment predicts self-employment entry and survival. Inter-generational transmission of skills, attitudes (and possibly financial resources) is found in the literature as an explanation for the homogeneity and stability of self-employment. However, recent work suggests that this traditional homogeneity has been breaking down in recent decades. Our analysis, disaggregating the self-employed by occupation confirms greater heterogeneity at this level. Thus parental self-employment is a predictor of entry into unskilled and skilled self-employment, but *not* of entry into professional self-employment. For the latter, educational level and general parental social background are more influential. So, for some types of self-employment, the influence of parental self-employment is moderated by other aspects of social and educational background; at the professional level, self-employment appears to be a labour market segment open to those without a family background of self-employment, if they nevertheless have a high level of education and/or a professional family background. It is much less clear that self-employment is a vehicle for upward or downward social mobility, between or within generations. Parental social background is a strong influence on entry to professional self-employment. Equally, looking at an individual's own trajectory, it is clear that there is a strong relationship between an their prior occupational status, and their status in self-employment. The potential of self-employment as a transitional vehicle for improving individuals' labour market position is not confirmed by our evidence; despite the growing heterogeneity of self-employment and increasing rates of transition into and out of self-employment (Meager and Bates 2004), the role of social background remains very important in determining those transitions (the main exception being in professional occupations), as does prior occupational background.

5 Do supported self-employment spells raise employability?

A key aspect of the role of self-employment in transitional labour markets is the effect of self-employment spells on subsequent labour market experience, and on the human capital of the individuals affected. One potential justification of self-employment schemes targeted at the unemployed (Meager 1996), is that even if the businesses quickly 'fail', the experience of self-employment will enhance their subsequent labour market chances (measured by employment probability or earnings, for example). Such enhancement might be direct (ie self-employment adds to their human capital) or indirect (eg self-employment has a signalling effect to potential future employers).

We have already cited evidence from UK research on life-cycle impacts of self-employment spells, suggesting that such experience can have negative impacts on incomes in later life, as well as US evidence that the impact of short-term self-employment spells on incomes and job-finding chances are also negative. We now throw some further light on these questions using UK data, collected as part of an evaluation of a self-employment scheme targeted at unemployed youth (fuller details of the evaluation can be found in Meager et al. 2003)³.

³ The evaluation was funded by the UK Department for Work and Pensions; the analysis and interpretation in the present paper are the author's own.

The research followed participants over time⁴, comparing their experience with a matched group of young people, who had not been supported to enter self-employment. A preferred methodology for the evaluation would have been to look at the counterfactual through a control group of people eligible for but denied that support (allocation to the control group would be ideally be random under such an approach). This experimental approach⁵ was not possible, as it was necessary to work with an existing sample of self-employed people supported through the scheme. Instead a quasi-experimental approach was adopted, with a comparison group, matched on a range of characteristics to those in the 'treatment group' (the self-employed entrants). Our preferred approach, was to construct a comparison group from the eligible population via 'propensity score matching' but this was not possible in the present case, due to the absence of a database of a clearly-defined group of the population who are eligible for the self-employment measure, to use as a sample frame⁶. The approach chosen, therefore, was to draw a comparison group from an existing database, offering a reasonable basis of comparison with the sample of self-employment entrants in the scheme. The comparison group was drawn from the JUVOS⁷ database of unemployed people, an administrative database of the UK public employment service.

As is common in such approaches, practical considerations limited the number of variables on which matching could be undertaken to three. Inevitably with such a matching process, unobserved heterogeneity in the sample gives rise to issues of selection bias. However, the survey method involved the collection of a range of data on observable characteristics (including motivational and attitudinal variables commonly hypothesised to contribute to unobserved heterogeneity in studies of this type). Despite this, however, it is likely that there remain other unmeasured factors which are influential both on the likelihood of a young person seeking support from the self-employment scheme, and on their future labour market outcomes and we consider the possible implications of this later in this paper.

An initial sample of 2,000 participants was surveyed three times at ten month intervals. The comparison sample (1,600 respondents) was selected to fall into the same age range (18-30) as the participants, and matched on three criteria; gender, region and employment status at the date when the matched person in the participant sample entered self-employment.

⁴ Three waves of data were collected and by the third wave, the oldest businesses in the sample were four years old, and the youngest just over two years old.

⁵ See Heckman and Smith (1996) for a summary of experimental and non-experimental designs to evaluation (which also points out a number of significant disadvantages to approaches based on random assignment).

⁶ See Bryson et al. 2002, for a description of propensity score matching methods of constructing a comparison group in evaluation studies.

⁷ JUVOS (the Joint Unemployment and Vacancies Operating System Cohort) is a five% sample of claims for unemployment-related benefits.

Table 5: Sample structure

	Participant sample	Comparison sample
Wave 1: Mar/Apr 2000	Telephone survey: 2,002 respondents	(retrospective data: 1,600 respondents)
Wave 2: Jan/Feb 2001	Postal survey, with telephone follow-up: 1,332 (identifiable) respondents	Telephone survey: 1,600 respondents
Wave 3: Nov/Dec 2001	Telephone survey: 872 respondents	Telephone survey: 925 respondents

Table 5 shows some survey attrition between waves, which introduced response bias into successive survey waves of the survey, so the data for waves 2 and 3 of the participant sample, and for wave 3 of the comparison sample were weighted to compensate for this bias. The weighting used logistic regression models, run on the data from the previous wave, estimating the effect of a wide range of variables (including individual characteristics, business characteristics, trading status of the business etc.). These models enabled the estimation of the probability (P) of an individual participating in wave 2 (or wave 3), given that they had participated in wave 1, and took the form:

$$\ln(P/1-P) = BX$$

where X is a matrix of observations on the independent variables, and B is a vector of parameters to be estimated. Having estimated P, the weights to be applied to the data for wave 2 (or wave 3) were calculated as the inverse of this probability (1/P) for each case in the dataset.

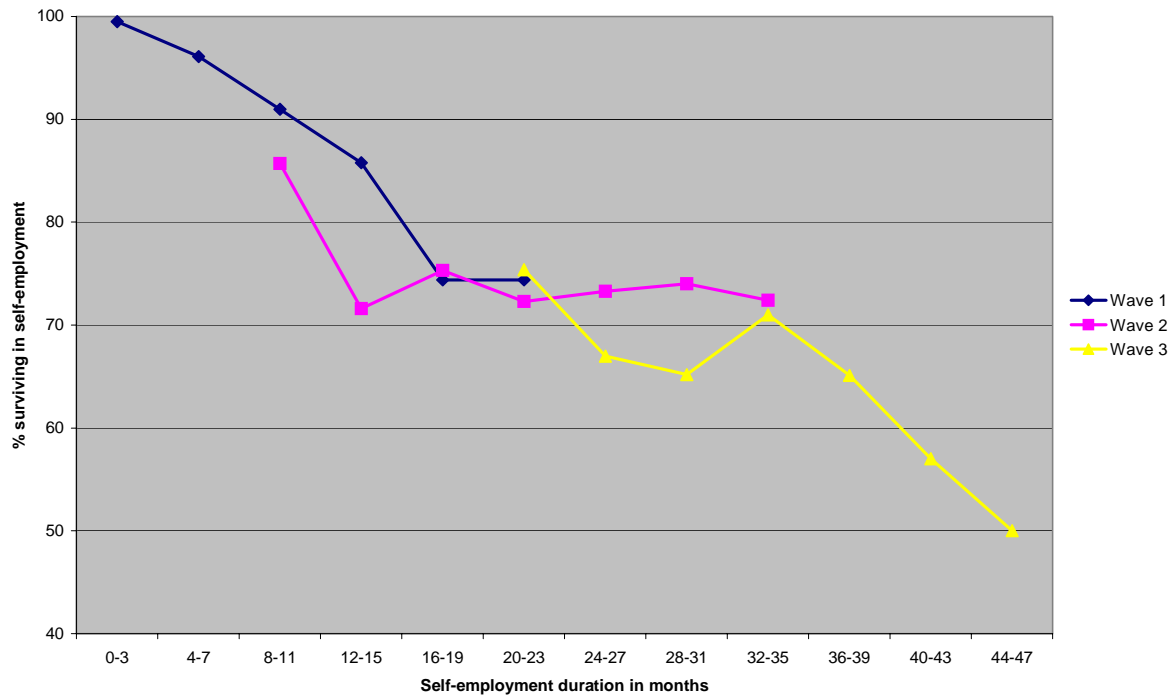
The overall survival rate in self employment of the participants was 88% at wave 1 (March/April 2000), 68% at wave 2 (Jan/Feb 2001), and 65% at wave 3 (Nov/Dec 2001). The wave 1 cohort consisted of a representative cross-section of participants who had started in the scheme in the previous 24 months, so by the time of wave 3 the longest self-employment spells were of nearly four years duration. Taking account of the variable durations of the wave 1 cohort, the data suggest that the survival rate declines steadily to around 70-75% 18 months after self-employment entry, after which the curve flattens out for another 18 months, beginning to decline again as the sample approach their third anniversary of start-up. By the time they approach their fourth anniversary, the survival rate is 50% (Figure 4).

Multivariate analysis of these survival rates (using logistic regression and Cox regression models: see Meager et al. 2003 for details), shows that the factors influencing survival are:

- *personal characteristics*: white participants have higher survival rates than non-whites as do participants with a family background of self-employment, older participants, and those with intermediate level qualifications;
- *attitudinal factors*: running counter to some notions of 'entrepreneurial' behaviour, 'risk averse' individuals record significantly higher survival rates than risk-neutral or risk-living individuals⁸.

⁸ The survey included questions to assess participants' perceptions of attitudes towards risk, asking whether they 'positively enjoyed taking risks', 'took risks where necessary', or 'avoided taking risks, wherever possible'.

Figure 4: Survival rates by duration since self-employment entry (waves 1 to 3)



- *business characteristics*: start-ups in the distribution, catering and transport sectors enjoyed lower survival rates than those in other sectors; similarly businesses dependent primarily on a local market were less likely to survive than those with wider geographical reach.
- *support through the start-up scheme*: self-reported dead-weight was strongly and positively associated with survival. This reflects a paradox in the design of self-employment schemes, well-documented in the literature (Meager, 1996), namely that such schemes typically record high dead-weight, and the most effective strategy to reduce it (targeting the scheme on the most disadvantaged groups) tends to reduce survival rates. In the present case, the form of funding received under the scheme was also relevant, with those receiving grant rather than loan funding having lower survival rates (the scheme administrators appeared to target grants on the most disadvantaged participants). The amount of funding received is positively (but weakly) associated with survival rates; a stronger positive influence, however, is the receipt of personal support from a 'mentor'. The regressions suggested that this effect was mainly apparent at wave 1, suggesting that such support is particularly important in the early months of self-employment.

We now turn to comparisons between the experiences of the participant sample and the comparison sample on indicators relating to subsequent labour market experience, namely: a) employment status; and b) earnings. Two types of comparison are made:

- In some cases (when looking at earnings trajectories), it is appropriate to compare outcomes for the entire participant sample with those for the entire comparison sample.

- In other cases (when looking at subsequent employment status) it is appropriate to compare outcomes for 'non-survivors' from the participant sample (ie those who have left self-employment), with those of the comparison sample.

Before reporting the multivariate regressions underlying the impact evaluation, it is helpful briefly to look at some descriptive indicators of outcomes in the two samples. The samples were matched in terms of initial employment status (at the time of the participants' entry to the scheme), but by the time of wave 1 (

Table 6), the distribution of employment status between the two samples diverged significantly. Thus, in the participant sample, 94% of respondents were in work (all bar 6% still in self-employment), whereas in the comparison sample the employment rate was 47%, almost all of which was wage employment. At each subsequent wave, the employment rate in the two samples converged, with the employment rate of the participant sample falling slightly while that of the comparison sample increased slowly. Nevertheless, by wave 3 the participant sample remained substantially 'better off' than the comparison sample in employment terms. We explore below whether this difference can be explained by other observable differences between the samples, or whether it is due to scheme participation and self-employment *per se*.

Arguably, however, a more pertinent comparison for evaluation purposes is between the comparison sample and 'non-survivors' in the participant sample. Making this latter comparison (

Table 6), the difference between the samples is less clear cut. Thus at wave 1, the employment rate of non-survivors (49%) is only just above that of the comparison group (47%). By wave 2 the difference is slightly larger, in favour of participant non-survivors; at wave 3, the position has reversed, and the comparison sample's employment rate at 61%, is slightly above that of the participant non-survivors, at 58%. From these data, there is no clear evidence that once their businesses close, those in the participant sample do better than those in the comparison sample. Moreover, it is worth noting (Meager et al. 2003) that the participant sample turned out to be somewhat older and better-qualified than average than the comparison sample, factors might operate to their advantage in the labour market. The multivariate analysis below controls for these and other factors. There is, however, as the table also shows, a big difference between the participant non-survivors and the comparison sample when we examine the composition of employment in subsequent waves. In particular, non-survivors are much more likely than those in the comparison sample to be self-employed. This greater disposition to self-employment among the non-survivors could be due to:

- the same factors (eg motivational factors) leading them to set up in subsidised self-employment in the first place; and/or
- experience of participating in the scheme making them more inclined or able to enter another self-employed business.

Table 6: Employment status of the participant and comparison sample at each wave

	Wave 1			Wave 2			Wave 3		
	Participant sample (%)		Comparison sample (%)	Participant sample (%)		Comparison sample (%)	Participant sample (%)		Comparison sample (%)
	All respondents	'non-survivors'		All respondents	'non-survivors'		All respondents	'non-survivors'	
Employee	5.5	45.3	44.9	15.7	49.9	47.7	16.5	47.4	56.3
Self-employed (total)	88.3	3.7	2.4	70.8	7.3	3.6	69.1	11.1	4.7
<i>Scheme-supported self-employed</i>	87.9	–	–	68.5	–	–	65.2	–	–
<i>Other self-employed</i>	0.4	3.7	2.4	2.3	7.3	3.6	3.9	11.1	4.7
Unemployed	3.6	29.6	35.5	6.5	20.8	35.3	6.8	19.5	26.9
Inactive/other	2.5	20.6	15.7	6.1	19.5	13.1	7.2	20.7	11.2
Not known	0.1	0.8	1.5	0.8	2.6	0.3	0.5	1.3	1.0
Total (unweighted)	2,002	243	1,600	1,332	383	1,600	872	294	925

1) The wave 1 data for both samples and the wave 2 data for the comparison sample are unweighted; the wave 2 data for the participant sample and the wave 3 data for the comparison sample are weighted for non-response between waves

2) Wave 1 data for the comparison sample are retrospective data, based on the respondents' recall of their circumstances.

Other differences between the samples are that comparison sample members are more likely to be unemployed at each wave, and less likely to be economically inactive than non-survivors. Further descriptive statistics from the survey (see Meager et al. 2003) reveal that for both samples (participant and non-survivor) prior employment status is strongly associated with wave 3 employment status. In both samples, those in work prior to the point at which the participant sample started their business, were much more likely to be employed or self-employed at wave 3 than were those who were out of work at the date of scheme entry.

Turning to the multivariate analysis, Table 7 contains three models, exploring differences between employment outcomes in the two samples at wave 3. Model 1 is a multinomial logistic model, based on the comparison sample and participant non-survivors at wave 3. It looks, for the combined population, at the likelihood of being self-employed, unemployed or inactive. In each case, this is assessed relative to the likelihood of being in waged employment. A key explanatory variable in each model is the dummy variable identifying which sample the respondent is drawn from, picking up the 'effect' of scheme participation.

The table shows that, controlling for the other factors in model 1, being in the participant sample significantly increases the likelihood of self-employment at wave 3, and reduces the likelihood of unemployment. It makes no difference to the likelihood of being inactive. Other variables with significant influence in the model are in line with prior expectation. Thus the only other variables with a significant (positive) influence on the likelihood of self-employment are parental self-employment and prior self-employment experience (both variables well-established in the literature as influences on self-employment propensities).

When it comes to unemployment, more variables are significant: men, those at the upper end of the age range, ethnic minorities, single people living alone, those with dependent children, non-home owners, and those with a risk-neutral or risk-averse attitude are more likely to be unemployed. Additionally, there are some regional effects, and those previously employed (prior to scheme participation) are less likely to be unemployed.

Lastly, looking at factors affecting the chances of economic inactivity (relative to waged employment): women, disabled people, married people, those with intermediate qualifications, and those not previously in work (prior to scheme participation) are more likely to be inactive.

Model 2 is a simpler formulation, a logistic regression with a dichotomous dependent variable measuring whether the respondent is in employment of any type (waged employment, supported self-employment, or other forms of self-employment) at wave 3 (rather than unemployed or economically inactive). It is based on the combined sample at wave 3, ie participants (survivors and non-survivors) together with the comparison sample. The results are broadly comparable with those of model 1: the scheme participation variable is again significant and positive. In addition, ethnic minorities are less likely to be in work, as are those who are single and living with their parents, those with lower level qualifications, and those who were previously unemployed or inactive.

Table 7: Multivariate analysis of employment outcomes: participant and comparison samples at wave 3

	Multinomial logistic regression						Logistic regressions			
	Model 1: (reference category: dependent employment) Base: comparison sample and participant non-survivors at wave 3						Model 2 (ref. cat: non-employment)	Model 3 (ref cat. non- employment)		
	self-employed		unemployed		inactive		Base: both samples complete at wave 3	Base: comp sample & PT non-survivors at wave 3		
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Sex (male =1))	-0.48	0.18	0.35	0.05	-0.71	0.00	0.11	0.42	0.07	0.64
Age of respondent in years	0.01	0.90	0.07	0.01	-0.06	0.06	-0.02	0.36	-0.02	0.36
Disability (disabled =1)	-0.09	0.85	-0.07	0.76	0.73	0.01	-0.23	0.21	-0.27	0.16
Ethnic origin (ethnic minority =1)	0.36	0.53	0.73	0.01	0.04	0.90	-0.60	0.01	-0.43	0.07
Either parent been self-employed? (yes =1)	0.94	0.00	0.04	0.83	0.18	0.40	0.05	0.74	-0.03	0.82
Ever self-employed before?(yes=1)	1.22	0.01	0.07	0.83	0.62	0.07	-0.05	0.83	-0.15	0.53
Marital status (single, living alone = 0)										
Single, living with parents	0.00	1.00	-0.48	0.01	-0.22	0.40	0.35	0.02	0.39	0.02
Married/cohabiting	0.25	0.55	-1.26	0.00	0.65	0.04	0.33	0.13	0.37	0.11
Separated/divorced	0.49	0.74	-0.01	0.99	0.74	0.32	-0.03	0.96	-0.28	0.67
Dependent children (yes =1)	0.26	0.57	0.64	0.02	0.38	0.19	-0.33	0.09	-0.43	0.04
Housing tenure (renting/free = 0; home	0.20	0.64	-0.55	0.05	0.23	0.36	0.14	0.44	0.13	0.49
Attitude to risk (risk taker = 0)										
Risk neutral	-0.21	0.60	0.54	0.05	0.14	0.65	-0.18	0.37	-0.39	0.08
Risk averse	-0.23	0.67	0.74	0.01	0.34	0.32	-0.32	0.14	-0.61	0.01
age at leaving education in years	-0.03	0.71	-0.04	0.31	-0.02	0.65	0.03	0.24	0.03	0.42
Highest qualification (NVQ 5 or equiv = 0)										
NVQ 4 or equiv.	0.14	0.89	0.30	0.67	0.77	0.30	-0.37	0.48	-0.52	0.33
NVQ 3 or equiv.	0.41	0.67	0.10	0.90	1.61	0.03	-0.82	0.14	-0.86	0.13
NVQ 2 or equiv.	0.15	0.88	0.83	0.26	1.01	0.18	-0.79	0.15	-0.93	0.10
Below NVQ2	0.94	0.38	0.68	0.36	0.83	0.31	-0.60	0.29	-0.74	0.21
No qualifications	0.74	0.51	1.21	0.11	0.96	0.24	-1.13	0.05	-1.21	0.04

	Multinomial logistic regression						Logistic regressions			
	Model 1: (reference category: dependent employment)						Model 2 (ref. cat: non-employment)		Model 3 (ref cat. non-employment)	
	Base: comparison sample and participant non-survivors at wave 3						Base: both samples complete at wave 3		Base: comp sample & PT non-survivors at wave 3	
	self-employed		unemployed		inactive					
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Region (London = 0)										
South East	0.25	0.74	-1.08	0.03	0.26	0.64	0.31	0.39	0.60	0.12
South West	0.28	0.68	-0.44	0.29	-0.26	0.63	0.19	0.54	0.51	0.14
West Midlands	-0.47	0.54	-0.38	0.32	0.07	0.89	0.01	0.97	0.26	0.41
East Midlands	-0.06	0.94	-1.29	0.01	0.28	0.63	0.35	0.33	0.61	0.11
Eastern	0.30	0.70	-0.50	0.27	-0.46	0.42	0.33	0.32	0.56	0.13
Yorkshire & the Humber	-0.08	0.91	-0.09	0.82	-0.05	0.92	-0.17	0.55	0.15	0.64
North West	-0.01	0.98	-0.39	0.33	0.25	0.62	-0.02	0.93	0.23	0.48
North East	-1.24	0.15	-0.32	0.44	-0.12	0.83	-0.07	0.82	0.26	0.44
Previous activity (employed=1)	0.16	0.65	-1.13	0.00	-0.55	0.01	0.99	0.00	0.93	0.00
Amount of funding from scheme (£ x100)	0.01	0.21	0.02	0.13	0.00	0.79	0.00	0.98	0.00	0.71
Sample (comparison sample = 0, participant)	1.29	0.01	-0.96	0.01	0.39	0.40	1.68	0.00	0.35	0.19
Constant	-3.57	0.14	-2.05	0.12	-0.57	0.71	0.51			0.43
<i>N = cases</i>						1,056				

Models 1 and 3 exclude participant sample respondents who are still in scheme-supported self-employment

Table 8: Earnings of all those in employment/self-employment in the participant and comparison sample at each wave

	Wave 1		Wave 2			Wave 3		
	Participant sample (%)		Participant sample (%)		Comparison sample (%)	Participant sample (%)		Comparison sample (%)
Usual net take home pay (or net takings from self-employment): £ per week	Still in supported self-employment	'non-survivors'	Still in supported self-employment	'non-survivors'		Still in supported self-employment	'non-survivors'	
Less than £50 per week	30.1	5.9	26.2	0.5	4.8	24.9	4.0	1.9
£50-99.99 per week	19.1	5.9	16.6	10.9	9.4	16.7	11.8	8.9
£100-149.99 per week	9.8	12.6	12.9	14.4	19.5	12.1	7.2	17.4
£150-199.99 per week	6.0	14.3	9.8	13.9	27.8	11.7	19.8	23.6
£200-£299.99 per week	5.6	27.7	9.4	25.7	17.5	10.5	21.5	23.2
£300-£499.99 per week	2.5	7.6	5.5	10.1	4.4	6.8	6.6	5.0
£500 plus per week	0.8	0.8	1.4	0.5	1.6	3.2	6.8	1.3
Not known/refused	26.0	25.2	16.6	24.1	15.1	14.0	22.3	18.6
<i>Total (unweighted)</i>	<i>1,759</i>	<i>119</i>	<i>949</i>	<i>223</i>	<i>821</i>	<i>578</i>	<i>184</i>	<i>570</i>

1) The wave 1 data for both samples and the wave 2 data for the comparison sample are unweighted; the wave 2 data for the participant sample and the wave 3 data for the comparison sample are weighted for non-response between waves

2) No wave 1 data are available for the comparison sample as retrospective earnings questions were not asked.

3) Earnings data relate to earnings from the business or employment in question (ie they do not include earnings from second jobs, and they do not include income from state benefits etc.)

Model 3 bases the comparison between the two samples on *non-survivors* only, ie the question concerns how well those who have left supported self-employment by wave 3 fare in employment terms, compared with those in the comparison sample. As in model 2 the dependent variable is whether the respondent is in work. Overall, the findings are broadly similar to those of the other two models. A key difference, however, is that the coefficient on scheme participation is small and not statistically significant.

Thus, once other factors are controlled for, it seems from models 2 and 3 that being in the participant sample rather than the control sample increases employment chances at wave 3, but only when the participants’ scheme-supported businesses are still trading. Being in the participant sample makes no difference (positive or negative) to subsequent employment chances for non-survivors. In this sense the multivariate analysis broadly supports the conclusions suggested by the simple descriptive data in Table 6 above.

Turning to look at earnings outcomes, Table 8 tracks net (post-tax) earnings of the survivors and non-survivors (in work) in the participant sample at each wave, and those in work in the comparison sample for waves 2 and 3. Most interest centres on what has happened by wave 3. It is clear that those in the participant sample who remain in their (scheme-supported) self-employment contain, by far, the largest concentrations of extremely low earnings. There is less difference between the distributions of earnings of non-survivors and those in the comparison sample but, on balance, it appears that the non-survivors’ sample exhibits a more polarised distribution than that of the comparison sample, with higher proportions in both the highest and lowest earnings categories.

Table 9 summarises wave 3 earnings distributions of the three sub-samples, presenting, in each case, mean and median earnings. It confirms, on both measures, that those surviving in scheme-supported self-employment have the lowest earnings at wave 2. Looking at non-survivors in work, median earnings are very similar to (slightly higher than) that of working members of the comparison sample, but mean earnings the non-survivors group is much higher than that of the comparison sample, reflecting the greater polarisation of earnings among non-survivors.

Table 9: Summary of wave 3 net weekly earnings by sub-sample

Sample	Mean (£)	Median (£)	Total cases (unweighted)
Still in supported self-employment (participant sample)	158.7	100.0	449
Non-survivors (participant sample)	246.6	179.1	142
Comparison sample	184.5	173.1	463

Table 10 Earnings equations: wave 3 self-employed and employees (participant sample and comparison sample)

	Dependent variable is logarithm of net weekly or hourly earnings							
	Self-employed				Employees			
	Model 1: Weekly earnings		Model 2: Hourly earnings		Model 3: Weekly earnings		Model 4: Hourly earnings	
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Sex (male =1)	0.04	0.74	-0.14	0.15	0.24	0.00	0.04	0.19
Age of respondent in years	-0.04	0.85	0.04	0.85	0.09	0.35	-0.02	0.66
Age squared	0.00	0.78	0.00	0.89	0.00	0.36	0.00	0.48
Disability (disabled =1)	0.05	0.78	0.01	0.96	-0.08	0.28	-0.02	0.59
Ethnic origin (ethnic minority =1)	0.29	0.17	0.24	0.21	-0.23	0.02	0.01	0.88
Region (London = 0)								
South East	-0.24	0.43	0.08	0.74	-0.15	0.22	-0.22	0.00
South West	-0.35	0.14	-0.09	0.66	-0.26	0.03	-0.32	0.00
West Midlands	-0.23	0.33	-0.35	0.09	-0.14	0.24	-0.29	0.00
East Midlands	-0.15	0.56	0.17	0.40	-0.06	0.74	-0.23	0.01
Eastern	-0.30	0.24	-0.24	0.29	-0.18	0.14	-0.34	0.00
Yorkshire & the Humber	-0.33	0.18	-0.27	0.21	-0.36	0.00	-0.37	0.00
North West	-0.28	0.23	-0.27	0.20	-0.18	0.09	-0.30	0.00
North East	-0.08	0.74	-0.59	0.01	-0.15	0.23	-0.37	0.00
Attitude to risk (risk-taker = 0)								
Risk neutral	0.04	0.78	0.01	0.92	-0.07	0.27	0.01	0.73
Risk averse	-0.05	0.77	-0.22	0.09	-0.02	0.81	0.00	0.92
Age at leaving education	-0.01	0.70	-0.01	0.51	0.02	0.10	0.00	0.64

	Dependent variable is logarithm of net weekly or hourly earnings							
	Self-employed				Employees			
	Model 1: Weekly earnings		Model 2: Hourly earnings		Model 3: Weekly earnings		Model 4: Hourly earnings	
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Highest qualification (NVQ 5 or equiv = 0)								
NVQ 4 or equiv.	0.03	0.93	0.10	0.69	-0.32	0.03	-0.22	0.02
NVQ 3 or equiv.	0.00	0.99	0.15	0.58	-0.38	0.01	-0.31	0.00
NVQ 2 or equiv.	0.06	0.86	0.09	0.75	-0.40	0.01	-0.32	0.00
Below NVQ2	0.26	0.46	0.31	0.29	-0.39	0.03	-0.37	0.00
No qualifications	0.53	0.16	0.13	0.66	-0.53	0.00	-0.32	0.00
Sector (primary and utilities = 0)								
Manufacturing and construction	-0.01	0.93	-0.16	0.33	0.05	0.61	0.08	0.32
Distribution, catering, transport etc.	0.03	0.86	0.12	0.54	-0.11	0.26	0.00	0.97
Business and financial services	-0.05	0.78	-0.28	0.13	0.15	0.16	0.16	0.04
Public admin, education and health	0.46	0.09	0.27	0.34	0.04	0.68	0.18	0.01
Other services	-0.08	0.59	-0.18	0.29	-0.13	0.24	0.04	0.63
Previous activity (employed=1)	0.41	0.00	0.25	0.00	0.11	0.02	0.00	0.46
Mentoring support in wave 3 (yes =1)	-0.10	0.28	-0.34	0.00				
Amount of funding from scheme (£x100)	0.01	0.02	0.00	0.64	0.00	0.34	0.06	0.04
Sample (comparison sample = 0, participant sample =1)	-2.18	0.00	-0.10	0.85	-0.36	0.05	0.06	0.57
Constant	8.76	0.00	1.45	0.63	3.31	0.02	2.00	0.01
<i>N= cases</i>	377		343		516		503	

Table 11: Probit selection equation for earnings models

	Self-employed				Employees			
	Model 1: Weekly earnings		Model 2: Hourly earnings		Model 3: Weekly earnings		Model 4: Hourly earnings	
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Either parent been self-employed? (yes =1)	0.09	0.10	0.16	0.02	-0.10	0.05	-0.10	0.13
Ever self-employed before? (yes=1)	0.05	0.47	0.06	0.54	0.18	0.04	0.19	0.04
Marital status (single, living alone = 0)								
Single, living with parents	0.16	0.02	0.20	0.02	0.21	0.00	0.25	0.00
Married/cohabiting	0.09	0.23	0.11	0.24	0.10	0.20	0.15	0.08
Separated/divorced	-0.18	0.33	-0.26	0.30	-0.43	0.05	-0.30	0.27
Dependent children (yes =1)	0.06	0.41	0.01	0.95	0.09	0.26	0.19	0.03
Sex (male =1))	0.05	0.44	0.06	0.39	-0.01	0.89	0.00	0.97
Age of respondent in years	0.01	0.93	0.00	0.97	0.05	0.58	0.03	0.80
Age squared	0.00	0.95	0.00	0.95	0.00	0.52	0.00	0.74
Disability (disabled =1)	-0.20	0.05	-0.17	0.10	0.00	0.96	0.01	0.85
Ethnic origin (ethnic minority =1)	-0.26	0.05	-0.29	0.04	-0.20	0.04	-0.17	0.07
Sample (comparison sample = 0, PT sample = 1)	1.53	0.00	1.46	0.00	-0.96	0.00	-0.96	0.00
Housing tenure (renting/free = 0; home owner/mortgage = 1)	0.23	0.00	0.18	0.05	0.00	0.99	0.01	0.90
Region (London = 0)								
South East	0.13	0.44	0.10	0.58	0.27	0.08	0.28	0.06
South West	0.07	0.66	-0.03	0.86	0.34	0.01	0.32	0.02
West Midlands	-0.09	0.53	-0.08	0.59	0.27	0.05	0.25	0.06
East Midlands	-0.06	0.72	-0.04	0.81	0.21	0.19	0.12	0.46
Eastern	0.03	0.85	-0.01	0.94	0.26	0.07	0.27	0.06
Yorkshire & the Humber	0.03	0.83	0.01	0.97	0.18	0.19	0.16	0.26

	Self-employed				Employees			
	Model 1: Weekly earnings		Model 2: Hourly earnings		Model 3: Weekly earnings		Model 4: Hourly earnings	
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
North West	0.05	0.75	0.03	0.85	0.22	0.10	0.20	0.13
North East	-0.15	0.34	-0.16	0.32	0.47	0.00	0.46	0.00
Attitude to risk (risk-taker = 0)								
Risk neutral	0.06	0.49	0.09	0.31	-0.04	0.60	-0.05	0.53
Risk averse	0.03	0.75	0.11	0.30	-0.09	0.27	-0.11	0.21
Highest qualification (NVQ 5 or equiv = 0)								
NVQ 4 or equiv.	0.20	0.22	0.23	0.17	-0.22	0.12	-0.22	0.12
NVQ 3 or equiv.	0.09	0.60	0.09	0.62	-0.17	0.25	-0.16	0.29
NVQ 2 or equiv.	0.05	0.77	0.08	0.66	-0.23	0.10	-0.22	0.12
Below NVQ2	0.01	0.95	0.03	0.86	-0.26	0.09	-0.32	0.03
No qualifications	-0.25	0.19	-0.20	0.31	-0.47	0.00	-0.47	0.00
Constant	-3.05	0.11	-2.81	0.16	-1.50	0.26	-1.35	0.31
Sample Selection Term (λ)	-1.13		-0.08		0.51		0.02	
Probability of Independence between earnings and selection model ($\rho = 1$)	Chi2(1) = 46.38	Pr>Chi2= 0.00	Chi2(1) = 4.37	Pr>Chi2= 0.04	Chi2(1) = 0.28	Pr>Chi2= 0.60	Chi2(1) = 2.16	Pr>Chi2= 0.14

Once again, however, to look at the impact of self-employment experience on subsequent earnings, a multivariate approach is required. For this, the two samples were again merged, and earnings equations estimated (based on self-employed and employees across both samples). Table 10 reports four earnings equations. The first focuses on all self-employed respondents at wave 3. The measure of earnings used here is the logarithm of net weekly earnings. In model 2, self-employed individuals are also the focus, but earnings are the logarithm of net hourly earnings. Model 3 considers the logarithm of net weekly earnings among employees, while model 4 is based on the logarithm of net hourly earnings among employees.

Estimation of these earnings equations requires us to consider sample selection issues. The problem can be summarised as follows. Respondents choose self-employment (or wage employment) over other alternatives. We observe only the earnings from those entering self-employment (or wage employment) over those alternatives. If those entering self-employment (or wage employment) have a propensity to earn more than those who do not, then the sample of observed earnings will be biased upwards. The sample selection models assume that whether or not earnings are observed depends upon an underlying selection equation⁹ (for an overview see Heckman 1979) .

The key findings from the models are:

Personal and related characteristics: the effects of sex on weekly earnings are not significant among the self-employed but are significant among employees. However, it is possible that the association between sex and earnings is significant because men are more likely to be working in full time employment (when hourly earnings are considered in model 4, the sex variable is no longer significant). Among other personal characteristics, age, disability and attitudes to risk were not significant determinants of earnings. Ethnic origin is significant (in model 3) in the expected direction, but this does not affect self-employed earnings.

Educational and career background: there is no clear relationship between self-employment earnings and qualifications at wave 3, or between earnings and the age at which the respondent left full-time education. However, there is a 'qualification effect' among employees. Relative to employees reporting NVQ level 5, those with lower level or no qualifications had lower incomes. In all cases except that of hourly earnings among employees, those in employment immediately prior to self-employment entry had higher earnings than those who entered from unemployment or inactivity.

Business and related characteristics: There is no regional earnings effect for the self-employed, although a London effect is apparent for employee earnings. There is no clear relationship between industrial sector and earnings among self-employed workers,

⁹ Table 11 contains the selection equations used for the earnings models, showing the sample selection term (λ), and ρ , indicating the correlation between the unobserved component of the earnings equation and the unobserved component of the selection equation. A significant value of ρ would vindicate the use of a sample selection model, as the standard regression estimator would have yielded biased results. The Chi2 test suggests that ρ is significant in the two self-employment earnings equations, but not in the wage employment equations. There is, therefore, some justification for adopting this technique.

although among employees, those engaged in business-related services or public administration had higher hourly incomes, relative to employment in primary industries.

Effects of scheme participation: the model contains three variables to capture the potential influence of the scheme: whether the respondent is from the participant sample (received financial support via the scheme); whether the respondent received 'mentoring' support via the scheme; and the amount of funding the respondent received from the scheme. Among the subsequently self-employed, there is a positive association between earnings and the amount of scheme funding received. However, it is striking that respondents from the participant sample had *lower* levels of self-employment weekly earnings than their comparison sample counterparts. Unfortunately, it is not possible to determine whether the differences in earnings between the self-employed in the two samples relate to unobserved aspects of respondents' personal characteristics, their 'human capital' or the nature of their businesses. As the 'sample' variable is not statistically significant (or barely significant at 95%) in the models for employee earnings, however, it is tempting to hypothesise that the variables included in the self-employment models capture a fair proportion of the differences in personal characteristics and human capital across both groups. It may, therefore, be that unobserved business characteristics are responsible for differences in self-employment earnings between the two groups.

The association between 'mentoring' received via the scheme and the subsequent earnings of the self-employed is, counter to initial expectation, negative and statistically significant. The causation is difficult to determine, but we can hypothesise that the self-employed in greatest need of support (eg because their businesses were the least successful) might also have been more likely to have been offered continuing mentoring guidance by the scheme administrators.

To conclude this part of the paper, we have already noted the need for caution in comparing labour market outcomes of the participant sample and the comparison sample, because of the possibility of selection bias. It is plausible, for example, that there are motivational differences between the two groups (although our surveys collected some attitudinal data, eg relating to risk-taking). It is also likely, however, that if such differences are relevant to subsequent labour market success, they would lead us to *over-estimate* scheme impact. This is because attitudes favourable to joining a self-employment scheme are likely also to favour employment success, and we risk attributing outcome differences to scheme participation, when they are in fact due to the higher motivation *etc* among scheme participants.

Despite this likelihood that any bias operates in favour of finding positive scheme impact (where there is none), or of over-estimating the size of such impact, it is notable that we find no evidence that scheme participation has *any* significant impact on *subsequent* employment or earnings (it is, of course, possible that a long-term impact exists, beyond the three waves of our survey). Among those leaving a short spell of (supported) self-employment, there is no increase in subsequent chances of being in work over their counterparts in the comparison sample. Similarly, self-employment experience does not enhance subsequent earnings levels as an employee. Rather those in the scheme are worse off than the comparison sample while in their self-employment spell, and no better off (or possibly worse off) after that spell.

6 Concluding remarks

Our review of UK evidence on the impacts of self-employment spells on careers and income levels in the short-run and over the lifecycle, supplemented with more recent work with UK panel data, does not suggest that such spells (in the unregulated UK environment) make a major contribution to enhancing those careers and income levels, justifying some scepticism regarding the promotion of self-employment as a policy tool within a TLM framework.

The UK evidence shows that the self-employed are highly polarised, with a more dispersed income distribution than employees. Once other factors are controlled for, the self-employed are over-represented in the lowest decile of the labour income distribution. Short-term scarring effects in income terms are limited, however, and on return to wage employment recent self-employment spells do not impair income chances (recent US evidence does, however, suggest a scarring effect on earnings). There are, nevertheless, longer-term effects: having had self-employment spells during the working lifetime is a predictor of low incomes in later life (an effect compounded by low savings levels and pension entitlements).

Our own work in this paper shows persistent gender and age effects in self-employment flows: women (and young people) are less likely to enter and to survive in self-employment than men (and older people). Most striking, however, are the results regarding self-employment as a vehicle for social or occupational mobility. Despite the growth in and increased dynamism of self-employment, having had a self-employed parent remains a strong predictor of entry to, and success in self-employment. The inter-generational transmission of self-employment propensities applies particularly to the self-employed in semi- and unskilled occupations. In professional occupations, parental background is also a predictor of self-employment entry, but in this case it is parental occupational background which acts as a predictor. Our findings do not suggest that, in the UK at least, self-employment transitions are a vehicle for upward (or downward) social mobility, either within or between generations.

Finally, as far as self-employment measures as part of an active labour market policy framework are concerned, our UK findings do not support arguments for self-employment schemes for unemployed beneficiaries based on their subsequent impacts on 'employability'. This reinforces the pessimistic conclusions from US studies on the potential of self-employment spells and supported self-employment as positive mechanisms in a TLM framework. What remains to be seen, is whether these kinds of results from the relatively un-regulated liberal UK/US policy regimes, would also apply in other countries which both place greater restrictions on self-employment entry, and which may also offer more effective support mechanisms for those entering or moving through self-employment.

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